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ABSTRACT

This paper discusses the preliminary planning, design, and development of a pilot project to create an Internet accessible database and search tool for locating and distributing company data and scholarly work. Team members established four project objectives: (1) to develop a Web accessible database and decision tool that creates Web pages on the fly; (2) to design an easy-to-use, forms-based input system for creating and updating entries; (3) to develop a tool for organizing and distributing information on startup growth companies and market leaders covering primarily computer software firms that have Internet products and services; and (4) to provide a forum for entrepreneurs, business students, faculty, analysts, and venture capitalists to share their views, papers, case studies, and company reports. Cold Fusion v1.5 was selected as the development tool for delivering Web-based database applications on a Windows server. Cold Fusion uses Hyper-Text Markup Language (HTML), Common Gateway Interface (CGI), Structured Query Language (SQL), and Open Database Connectivity (ODBC) as building blocks. A diagram illustrates how Cold Fusion uses templates. (SWC)

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WEB DATABASE DEVELOPMENT: IMPLICATIONS FOR ACADEMIC PUBLISHING

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ABSTRACT

This paper is a condensed version of the conference paper which will discuss in detail the development of an Internet accessible database and search tool for locating and distributing company data and scholarly work. Based on a pilot project completion date of May 31st, the conference paper will expand this paper's sections, as well as cover issues addressed, technology enablers, maintenance, and future direction. The online portion of the presentation will demonstrate Web enabled database features for supporting new modes of organizing and presenting information on the Net through joint ventures. As a cooperative venture between Georgia Business Net, an Internet service provider, and the presenter, the Web smart database is designed to fulfill the four objectives described below.

INTRODUCTION

As a team project, this initiative draws its strength from the following mutual objectives agreed to by team members: (1) to develop a Web accessible database and decision tool that creates Web pages on the fly; (2) to design an easy to use end user forms-based input system for creating and updating entries; (3) to develop a tool for organizing and distributing information on startup growth companies and market leaders covering primarily computer software firms that have Internet products and services; and (4) to provide a forum for entrepreneurs, business students, faculty, analysts, and venture capitalists to share their views, papers, case studies, and company reports. Prospective
end users are the above participants, as well as others seeking information on specific companies, their products and what makes them a growth company. A review of the literature and related Web sites confirmed that our objectives were on target, and that we had the necessary expertise, software, hardware and Net connections to accomplish the team's objectives.[1]

PLANNING, DESIGN AND DEVELOPMENT

Early on, we realized that the manner of presentation and usefulness of content were key to

[1] Team members: George Carden, Vice President, Georgia Business Net; John Rigdon, Marketing Manager, Georgia Business Net; Heston Newland, Data Coordinator for Pilot Database; Sean Kenworthy, Systems Analyst; and Bob Fernekes, Project Coordinator.

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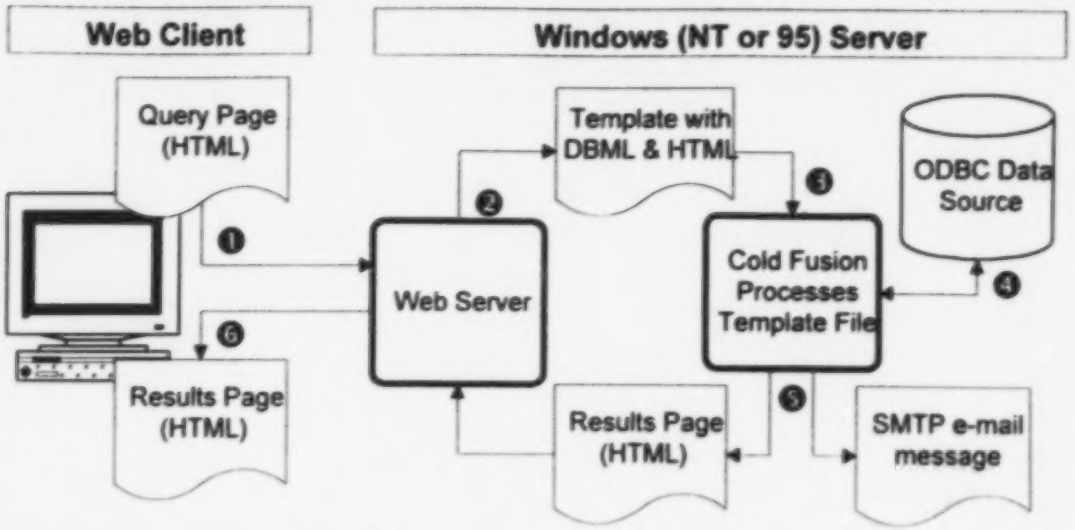
distinguishing this site from similar offerings. Accordingly, our Web page titled " The Net Effect" was designed to provide easy navigation to all site features. Foremost, the scope of the supporting databases encompass the theme of wealth creation in the 21st century and focus on growth companies as the wealth creators. Thus, the site with its focused content and analytical capabilities is viewed as a "thesis driver". Leveraging the latest Internet developments, this site will serve to integrate thesis information on the theme of wealth creation, and to provide a unique analysis function lacking at other sites.

Todate, Information Technology has been largely devoted to harnessing computers and network technology and to getting things to work. In constrast, today's challenge is to design information systems that respond quickly and intelligently to the needs of a growing number of individual and workgroup users. Accordingly, the commercialization of the Internet during the past two years has produced a wellspring of new companies with more adaptive, responsive solutions for integrating legacy databases and the power of the Web. One such company is Allaire, LLC, which has developed a product called Cold Fusion.

Selection of Cold Fusion v1.5 from among the growing list of products is a tribute to all startup companies racing to the Internet with their tools for developing corporate applications. Building on the page metaphor, Cold Fusion is a development tool for delivering Web-based database applications on a Windows (NT or 95) server. To provide this functionality, Cold Fusion uses the following four technologies as building blocks: Hyper-Text Markup Language (HTML), Common Gateway Interface (CGI), Structured Query Language (SQL), and Open Database Connectivity (ODBC). What is exceptional about Cold Fusion is its ease of use as a development tool and its performance in rapidly delivering requested information. Cold Fusion's simplicity comes from using HTML to specify all data formatting and presentation, and using Database Markup Language (DBML) tags rather than programming in Visual Basic, C++ or Perl. The primary DBML tags providing most of the core functionality are DBQUERY, DBINSERT, DBUPDATE, and DBOUTPUT.

Assembling the resources for the pilot project also entailed selection of the server platform and software, as well as database software. Key considerations guiding our respective decisions were providing efficient service and compatibility with Cold Fusion. The dedicated server is a 586 computer (64 RAM, 4 GB) running Windows NT, Netscape Communications/Commerce Server software, Cold Fusion v1.5, and FoxPro v2.6. At its present location, the server has a T-1 Internet connection provided by Georgia Business Net.

The basic idea of how Cold Fusion uses templates is illustrated in this diagram.



Note: Diagram reprinted with permission.[2]

1. The user completes the form and submits it to the Web server which opens a Cold Fusion process in step 2.

2. Next, the Web server passes the client submitted data to the Cold Fusion process and points it to the specified template file.

3. Cold Fusion reads the client data and processes the DBML commands -- the type of request to the database and the results page format for presenting data.

4. Using ODBC, Cold Fusion interacts with the database.

5. Cold Fusion creates a Web page on the fly containing the requested information, and sends it to the Web server. The results of the query can also be sent as an email message.

6. Lastly, the Web server sends the generated Web page to the user's browser.

DISCUSSION AND ASSESSMENT

This section will be completed for the conference paper upon conclusion of the pilot project.

[2] Cold Fusion V1.5 User Guide (Minneapolis: Allaire Corp., 1996) 16.

CONCLUSION

This paper provides only a preliminary picture as the team works through the pilot project. The author believes that this project will demonstrate that Web enabled database applications, such as Cold Fusion, introduce a new level of collaborative interactive analysis for users, particularly scholars and researchers within specific fields.

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